Author’s response to reviews

Title: Assessing skin disease and associated health-related quality of life in a rural Lao community

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Author’s response to reviews:

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Dr Alexander Zink
Editorial Office
BMC Dermatology
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Dear Dr Zink,

I am pleased to present our resubmission of our original research article now entitled "Assessing skin disease and associated health-related quality of life in a rural Lao community" for consideration for publication in BMC Dermatology.

We have responded to the reviewers’ comments, point by point, below and all the changes to the document have been tracked. In addition, the following changes have also been made:

1. The disease classification has been changed slightly in Table 2; namely acne, urticaria and pityriasis alba are all under the inflammatory heading now.

2. Beclomethasone has been changed to beclomethasone dipropionate.

We very much hope that these improvements will result in the article being deemed acceptable for publication in BMC Dermatology.

Yours sincerely,

Catriona Wootton

Response to reviewers’ comments:

Technical Comments:

* Please provide co-author's email address.

The co-authors' email addresses are in the co-author details, would you like these adding to the document and if so, where please?

* Missing Figure Legends

The two figures have been adjusted to make them easier to understand and figure legends have been added.
Editor Comments:

Interesting study on skin diseases in rural Laos of great importance for future health planning including teaching of healthcare staff. As 2 reviewers mentioned, the used methods with 340 participants in one village do not allow an estimation of the overall prevalence of skin diseases in Laos. This should clearly be addressed throughout the manuscript incl. the title and the discussion.

Thank you, we agree that the limited number and single location do reduce the generalizability of the study so we have changed the title to: Assessing skin disease and associated health-related quality of life in a rural Lao community

This paragraph has been added to the discussion:

The aim of this study was to assess skin disease prevalence in a rural Lao population. We have documented the skin diseases found in a rural Lao population and made an assessment of the resulting impact on quality of life. It is important to note however that this study used participants from only one village and as a result, while the findings shine light on the more common skin diseases in these communities, the data does not allow for an estimation of the overall prevalence of skin disease in rural Laos.

Reviewer reports:

(Reviewer 1):

The idea of the study is very interesting and it is surely of interest to figure out the prevalence and the impact of skin diseases on people in rural Areas of Laos.

Thank you, we agree.

However, the methods of the study and the conclusions drawn are currently not ready for publication.

1. Why was the DLQI only filled out by 51% in total? This is a very low figure to fully draw conclusions. The authors clarified, that the physicians decided who would receive a DLQI to be filled out. How was this decided? Wouldn't a self-written questionnaire, which could have been distributed to all participants been more useful? Maybe the visual analogue scale could have also been added?
We agree that a higher number of completed DLQIs would have been preferable. There were several reasons for the reduced rate including physicians not requesting a DLQI to be completed, participants not wanting to complete the DLQI or not willing to wait to do so. Also the DLQIs were completed on a mobile ODK device and the questions were asked by a pair of Lao clinicians in a separate room; we think there may have been some miscommunication resulting in participants not attending the DLQI station and it is also possible that not all forms were correctly saved. The decision to request a DLQI was made by the examining clinician, resulting in some variability, but the agreed criteria prior to the initiation of the study was to request a DLQI for anyone with an active skin condition.

The DLQI was chosen as it is an internationally recognized assessment tool and one the authors are experienced in using, as such it was felt to provide useful and translatable data. The authors originally planned to use self-written questionnaires but the reduced rates of literacy in the rural population plus the logistics of getting participants to complete forms appropriately was felt to make this option less viable and we were advised against this by clinicians experienced in research in rural Lao locations.

The text has been adjusted to encompass the points discussed above:

The DLQI was chosen as an internationally recognized assessment tool, guaranteeing the translatability of the data. The decision to ask a participant to complete the DLQI was made by the clinician examining the patient, based on the skin condition found. The consensus prior to initiation of the study was to request a DLQI on any participant with an active skin condition. The relatively low percentage of completed DLQI questionnaires compared to the number of participants with a skin disease may be due to several factors: variability between the clinicians as to which conditions warranted a DLQI to be performed, participants being unwilling to complete the questionnaire, or possibly failure to input the data properly. The DLQI was recorded by two Lao clinicians on an ODK device in a separate room and it may be that some participants did not attend this station despite being requested to.

2. In total, only 340 people participated. This is a very small figure for a Country with 7 Million inhabitants. If the Duration of the study would have been Extended to more than four days, couldn't a larger number of participants be collected?

We agree that a larger number of participants would have made the study more meaningful. Our time was limited by the need for two dermatologists to attend from overseas to make the study feasible so it would have been difficult to extend the study as they were giving up their time/annual leave time to assist. In addition, all of the villagers from this village that were willing to be examined were, so to access more participants we would have had to extend the study site to incorporate more villages. Gaining permission to perform research in Laos is technically quite a challenging and time consuming process. This is the reason why a village
previously involved in research from the unit was used. This is also the reason why such a large village was chosen, it is lamentable that we had not appreciated the attrition rate of villagers going to Thailand for work and education.

3. The data was collected during a hot and dry season. As many Skin conditions definitely worsen in human and rainy climate, wouldn't it maybe have been of interest to add another questionnaire per participant during the rainy season? A clinical assessment would not have been necessary anymore by a physician. Only the self-filled questionnaire.

Yes, certainly information from the wet season would be very useful. Once again we were limited by the time availability of the dermatologists assisting from overseas. In addition, during the rice planting and harvesting time it would be very difficult to get villagers to participate in studies during daylight hours as well as the issues regarding access as the roads can be challenging in rural areas. Despite these issues, the authors are certainly interested in pursuing the possibility of a follow-up study in the wet season.

With respect to self-filled questionnaires, the same problems mentioned above exist. Namely the limited literacy in rural areas, the logistics of giving out and collecting questionnaires and the experience of other local researchers in trying to collect data in this way.

4. The conclusion states that the prevalence of Skin diseases was determined in the rural Laos Population. With only 340 participants, I do not think that it was really determined in the whole of the rural Population. The prevalence of only a small fraction of the rural Population was assessed.

Yes, quite rightly you point out that the numbers are just not large enough to give a representative sample. We have adjusted the title and some of the text to account for this and the first line of the conclusion has been adjusted as below:

We have assessed the prevalence of skin disease in a rural Lao population and assessed the association of these diseases with the health-related quality of life of those affected

5. The authors stated, that participants which had had a previous Skin disease, had a higher risk of having a Skin disease at the time of data collection. Maybe it would be of interest, what the previous Skin condition was. For example: was it a chronic Skin condition such as eczema?

We agree that it would be interesting to know what previous skin conditions the participants had and how that related to the findings on examination. Unfortunately, the nature of the precious
skin condition was not documented. The reason for this is two-fold: it was felt that very few, if any, of the participants would have known if they had specific diagnosis and secondly, it was also felt that asking the participants to describe their previous skin problems would have added extra time to the consultation time period and the information provided (itchy, sore, red, etc) would not have been specific enough to confirm a diagnosis. We had originally included a question about how long they had had a previous skin problem for but on the advice of local researchers we removed this question as time, especially in a historical sense is quite a vague concept in Lao culture and it was felt that the question might prove challenging to explain and that the answers would not necessarily be accurate.

6. I would add "eczema" to the key words.
Eczema has been added, thank you for this suggestion.

7. English proof-reading and editing necessary.
Thank you, I will proof-read and edit again prior to resubmission but we would be very happy for further proof-reading and editing as necessary.

(Reviewer 2):

This study provides data about the prevalence of skin diseases in a rural village in Laos. As there is no data available about the prevalence of skin diseases in Laos yet, this study contributes to a better understanding of the medical needs regarding skin diseases in this country.

Thank you, we agree and this was our primary aim in undertaking this study.

However, the purpose of the study was to "assess a representative sample of the rural Laos population", which unfortunately has not been achieved.

Sadly, we agree that despite our best efforts our sample is not as representative as we would have wished and we will answer your specific points below.
First, the examined village was chosen due to several specific reasons such as previously having taken part in research, comparably large population size and having a primary school. This raises the question if the village is really a representative example of a Laos village.

Yes, your point is valid. When choosing the village, we had to be very pragmatic as to what was achievable on a limited time scale (due to dermatologists come from overseas to assist in the study) and given the challenges of undertaking research in Laos. We really had to use a village that had been involved in research by the unit previously as it can take years to be granted access to villages for research purposes and so the links to the unit ensured we would be able to undertake the study in a reasonable timeframe and without undue complication. The reason for selecting a large village was obviously to ensure as large a number of participants as possible and again due to the difficulties in gaining access; to have chosen two smaller villages would have been much more complicated. Many larger rural villages in Lao do have primary schools and clearly the presence of the primary school meant that we could also examine the children, which we would not have managed if using a village without a school given that the study took place during week days.

The following has been added to the discussion to address these points:

A further question regarding how representative our sample is the nature of the village chosen. Hadkansa village is large, with a documented population of 1000, although as discussed above the actual day-to-day population is far lower. In addition, it has a primary school and already had links with LOMWRU. These three points were the main reasons for choosing the village. As the study involved dermatologists coming to Laos from overseas, it was time-limited so we needed a large population so we could examine as many villagers as possible. The presence of the primary school meant we could also examine primary aged children and as the study took place during weekdays, we would not have had access to this cohort otherwise. Finally, the links with LOMWRU were vital to ensure that we could organize and perform the study within the available timeframe.

The authors argument that the age distribution in the study sample matches the age distribution in the Laos population, however the chosen age groups are quite wide, especially the group 15-64 years. Consequently, a comparison of the age distributions in the sample and the general population based on this grouping is not precise enough.

These groupings were chosen as these are the age groups listed in the official country data for Laos. We have changed to the CIA age distribution data for Laos and adjusted the age groups accordingly:

The age distribution was similar that of the population as a whole: 32.4% were aged 14 years or younger (32.7% in general population), 8% were aged 15-24 years (21.2%), 39.1% were aged
25-54 years (36.7%), 8.5% were aged 55-64 years (5.5%) and 12% were over the age of 65 years (3.9%).

Second, the study participants don't necessarily seem to be representative of the whole village population, as only 340 villagers of the around 1000 inhabitants were assessed in this sample. The authors explain that this is partly due to the fact that a lot of people travel to Thailand for work or education. This leads to biased results, as older and potentially less healthy people might have remained in the village and participated in this study.

Yes, we agree and this point has been discussed above and some of the text has been changed to address this.

Your point about the data being biased due to older, potentially less healthy individuals is an excellent one and one that we had not fully appreciated, as a result we have added the following sentence:

It is important to note that as a result of this missing cohort of young and middle-aged individuals, our results are likely to be biased towards older and perhaps less well individuals.

Similarly, the assessment of health-related quality of life was not representative, as the decision to ask a participant to fill in the DLQI questionnaire was made by the physicians with no pre-specified criterion, which among other reasons resulted in only half of the participants filling in a DLQI questionnaire.

Yes, we agree that the number of completed DLQIs was much lower than we would have liked. We have addressed this point above and made some changes to the text. We did have a pre-specified criterion for DLQIs which was any patient deemed to have active skin disease but I suspect that this was too open to interpretation.

In conclusion, the results of this study do not really allow an estimation of the prevalence of skin diseases in rural Laos, which reduces the informative value of the results.

We agree that there are significant limitations to our study and sadly it does not allow for an estimation of the prevalence of skin disease as we would have liked it to, however we still feel that the data is useful, if only to shed light on the more common conditions in this previously unstudied population.
(Reviewer 3):

The Original Article „Assessing the prevalence of skin disease and associates health-related quality of life in Laos“ by Wootton et al. is an interesting original article and the first study about the prevalence of skin diseases and the associated health-related quality of life in a rural village in Laos.

Thank you

The following minor points could be taken into consideration.

Background:

Page 5, Line 98-101: The sentence is too long and the reviewer recommends to simplify it.

Changed to: It is reasonable to predict that the impact of any skin disease will be even more substantial in lower socioeconomic populations with limited access to health care and an agricultural economy.

Results:

Page 6, Line 146: Please ease the expression "0.7:1 male:female ratio", e. g. 0.7 male/female.

Changed to: 0.7 male/female ratio

Page 7, Line 160-165: Please also provide the number of patients in the brackets.

Changed to: On examination, just over half the participants (53%; 181 of 340 participants)

Page 7, Line 166-172: Please also provide the percentage of patients in the brackets to be clearer. The style of presentation should be similar to the style in the previous paragraph.

Changed to: The six most common dermatoses were: eczema (22%; 39 people), dermatophyte infections (19%; 34 people), acne (10%; 19 people), scabies infestation (9%; 16 people), melasma (8%; 14 people) and pityriasis versicolor (4%; 8 people). Arthropod bite reactions and lichen simplex chronicus from footwear were also commonly seen (6%; 10 people and 7%; 12 people respectively)

Discussion:

Page 8, Line 212: … et al. …
This has been changed

Page 8, Line 213: …finding that an average…

Changed to: finding that an average

Page 12, Line 294: …and is…

Changed to: and is therefore in reach

Page 13, Line 308-313: Please use both, numbers and percentages.

Changed to: However, in 22% (20 people), the skin condition impacted the participant’s life to a very large or extremely large degree, according to the DLQI result rating system. In this study, 3 (9%) participants…

You describe, that the most common dermatological disease was eczema (22% of the participants). Kuroiwa et al. analyzed the prevalence of asthma, rhinitis and eczema in school children from Vientiane (Kuroiwa et al., Prevalence of asthma, rhinitis, and eczema among children in Vientiane city, Lao PDR. Southeast Asian J Trop Med Public Health, 2006 Sep;37(5):1025-33). In this study only 7.1% of the children suffered from eczema. How was the percentage of children having an eczema in your study? Are the data comparable to the data found by Kuroiwa et al.?

Thank you for highlighting this study. We were aware of this paper (and the subsequent follow-up paper). We had not included it as we felt it was not directly comparable to our study however on reflection, especially given the lack of studies in skin disease in Laos, we feel it would be beneficial to discuss these papers in our discussion. Consequently, we have added the following paragraph:

Two studies report on the prevalence of eczema in schoolchildren in the Lao capital, Vientiane. Both studies used the ISAAC questionnaire to determine the prevalence of asthma, rhinitis and eczema and but no skin examination was performed. The studies asked schoolchildren aged 13-14 years and the parents of schoolchildren aged 6-7 years to complete the questionnaire. The prevalence of eczema was reported as 7.1% in Kuroiwa et al.’s study and 11.8% in Phathammavong et al.’s study which was performed 8 years later in 2006. Only 3% (3 participants) of our school aged cohort were found to have evidence of eczema on examination. This discrepancy may be due to several factors: firstly our cohort were from a rural area, rather than the urban location used in the two previous studies. Secondly, in our study the diagnosis of eczema was based on skin examination rather than a questionnaire-based diagnosis used in the two ISAAC questionnaire studies (an itchy rash coming and going for at least 6 months). Finally our study only considered skin disease at one time point whereas the questionnaire studies asked
about eczema at any time point. These differences may account for the discrepancy in prevalence of eczema found in these cohorts.

Tables:

Table 1: Please also add the percentages.
Percentages have now been added.

Table 2: I would suggest "Percentage of patients" as title of the third column.
Column title has been changed to “Percentage of participants”

Table 3: Please also add the percentages
A third column with the percentages has been added.

General:

Have any photographs of the patients been taken? The appearance of skin diseases in patients from south-east Asia might be of interest, especially for not in Asia working medicals.

A selection of photographs is available and we have consent for these images so they will be added to the resubmission, thank you for recommending their use.